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CUSTER COUNTY

RURAL AND WILDLAND FIRE PROTECTION PLAN

Forestry Division

Department of Natural Resources and Conservation

1978

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"During an average year, 120,000 wildland fires burn 3 million acres in the United States. The resource value destroyed is about $200 million, and the loss in terms of national products approaches $1 billion." (USDA 1978)

Photo 1 Custer County Landscape

Custer County, through this document, is requesting to enter into a cooperative agreement with the State of Montana to better meet Custer County's fire protection responsibilities.

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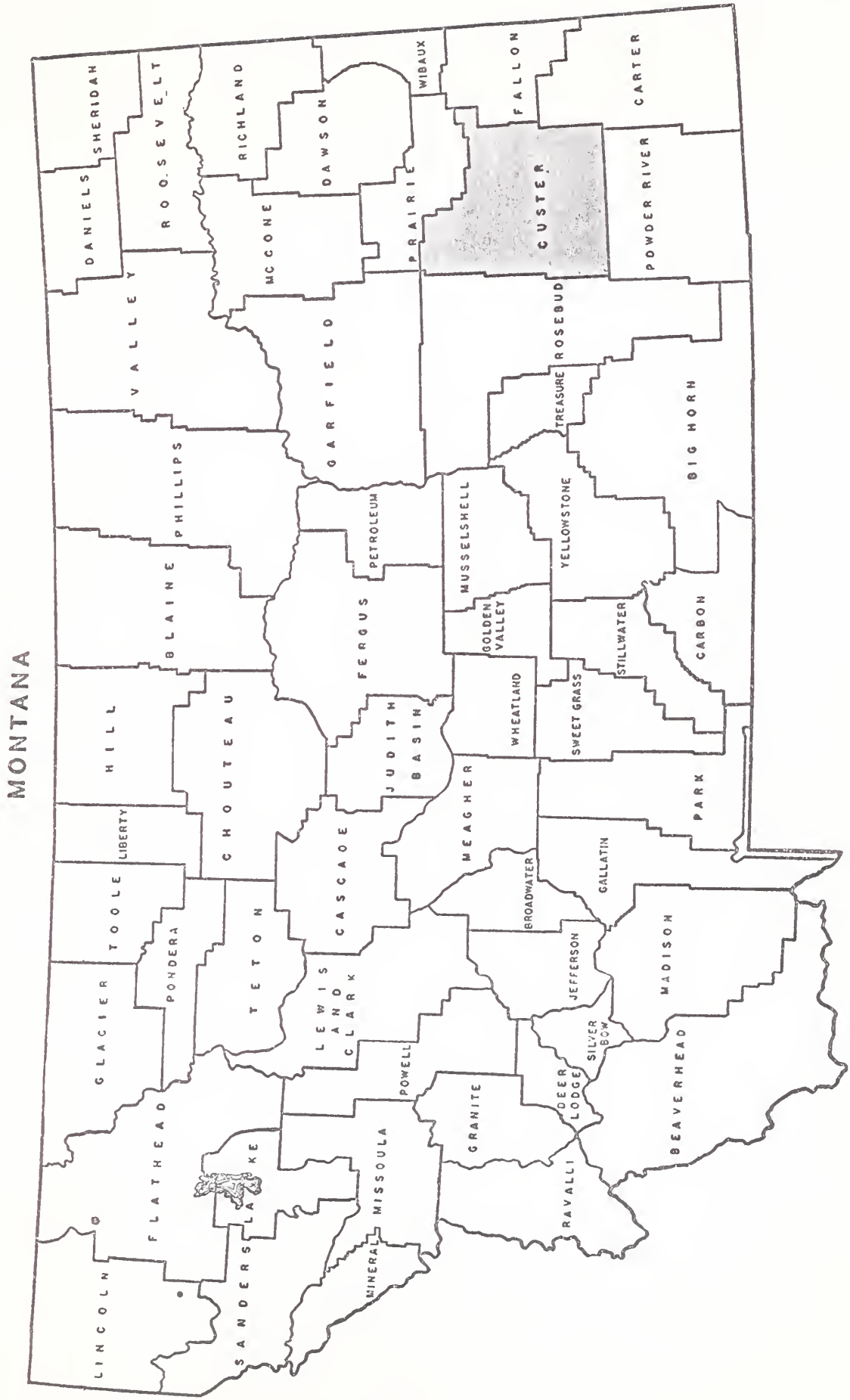
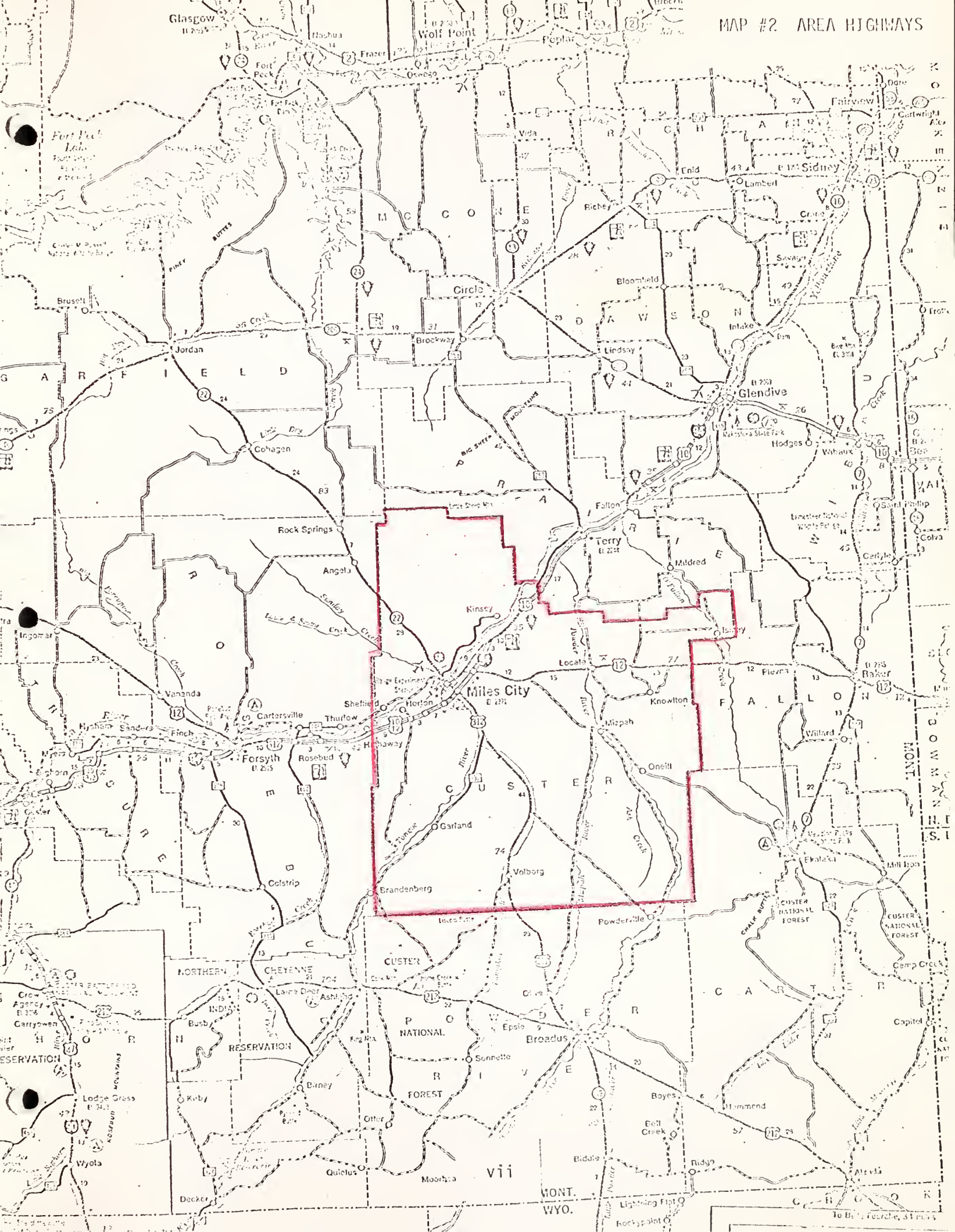
MAP #1 MONTANA COUNTIES



MAP #2 AREA HIGHWAYS



I. GENERAL DESCRIPTION OF CUSTER COUNTY

Custer County encompasses 2,486,007 acres of private, state and federal lands in the lower Yellowstone River Valley. (See Map #1) The Yellowstone River flows from southwest to northeast across the north end of the county. The County's major transportation routes follow the Yellowstone River and include the Burlington Northern Railroad, the Milwaukee Railroad and Interstate Highway 94. Three other highways, U.S. 12, U.S. 312, and Montana 22 converge at Miles City as they pass through Custer County. The Tongue and Powder Rivers flow from south to north through the county to the Yellowstone River. (See Map #2)

TABLE 1: LAND OWNERSHIP IN CUSTER COUNTY (USDA-1978)

Land Ownership	Acres	Percentage of Total
Private and Municipal	2,000,311	80.4
State of Montana	141,007	5.7
Bureau of Land Management	344,689	13.9
TOTAL	2,486,007	100.0

See Map #5--Back Cover Jacket

Miles City, the population center of Custer County, serves as the county seat, but also includes the small rural communities of Volborg, Locate, Mizpah, Ismay, Kinsey, Shirley, Moon Creek, Sheffield.

TABLE 2: RURAL AND URBAN POPULATION OF CUSTER COUNTY--1970 (USDA-1978)

Area	Population	Percentage of Total	Population Density
Rural	3,151	25.9	1.05/sq. mi.*
Urban	9,023	74.1	1,504/sq. mi.*
TOTAL	12,174	100.0	

*approximate figures

There is not a great variety of landform and topography in Custer County. There is a difference of only 1,093 feet between the elevation extremes of 3,343 feet and 2,250 feet above sea level. (See Map #3--Back Cover Jacket)

The average annual precipitation corresponds to the slight variation in elevation. There is a range in average annual precipitation of 10 to 20 inches throughout the county. (DNRC-1976)

The vegetation characteristically reflects the moisture regime. There are four major categories of land use in Custer County based on topography, moisture, and vegetation. (See Map #4--Back Cover Jacket)

1. Rangeland--flat to rolling prairie with a generally continuous grass cover; 10 to 14 inches annual precipitation.

2. Mixed Barren Rangeland--rough and broken topography with a sparse grass cover and scattered brush and trees; 10 to 14 inches annual precipitation.

3. Coniferous Forest--rough and broken topography with a generally continuous cover of ponderosa pine; 14 to 20 inches annual precipitation.

4. River Bottom--a narrow stringer of flat land along the rivers, most of which is either cottonwood forest or cropland; 10 to 14 inches annual precipitation.

Agriculture is the base of the Custer County economy. "Ninety-five percent of the land in Custer County is used for agricultural purposes, one percent for commercial uses, one percent for forest products and three percent for other uses." (USDA-1978) Livestock, hay, and grain are the main ranch products.

TABLE 3: USE OF PRIVATE AND MUNICIPAL LAND IN CUSTER COUNTY

Land Use	Acres	Percentage of Total
Native Range	1,857,135	92.8
Dry Pasture	25,300	1.3
Irrigated Pasture	2,300	0.1
Dry Cropland	67,485	3.4
Irrigated Cropland	24,700	1.2
Urban Areas	14,307	0.7
Small Water Areas	9,084	0.5
TOTAL	2,000,311	100.0

See Map #4--Back Cover Jacket

II. FIRE HISTORY AND WEATHER PATTERNS

A. FIRE HISTORY

Wildland fire occurrence records on state and private land, beyond the 15 mile radius of the Rural Fire Association protection, are sketchy. By expanding the known information, on an acreage relationship, it appears that the average annual wildland fire situation on state and private lands in Custer County is about 75 fires burning 3,000 acres. It could be substantially more if all fires were reported.

The fire history information reveals that debris burning and railroads are the most common ignitors of man-caused fires. Fire occurrence in these categories is fairly well confined to public travel corridors: roads, highways, and, of course, railroads.

Lightning-caused fires occur almost entirely in the rough, partially forested area, east and south of the Yellowstone River. While the number of lightning-caused fires is not high, the average size is fairly large. This large size is probably due to longer response times, difficult terrain, and favorable burning conditions.

TABLE 4: FIRE HISTORY OF CUSTER COUNTY (MCFD and BLM)

	Rural Fire Association 15 Mile Radius 1974-1977	Bureau of Land Management 1969-1973
Average number of fires per year	23	4
Average fire size	43 acres	139 acres
Average number of lightning-caused fires per year	2	3+
Average size of lightning-caused fires	76 acres	152 acres
Months of most active lightning activity	August	July-September
Average number of man-caused fires per year	21	Less than 1
Average size of man-caused fires	39 acres	25 acres
Three top man-caused ignitors	(1) Debris Burning 7 fires, 3 acres/fire/yr.	No data
	(2) Railroads 6 fires, 2 acres/fire/yr.	No data
	(3) Children 2 fires, 1 acre/fire/yr.	No data
Most active months of man-caused fires	March-April July-October	No data
Length of fire season	March-October	July-September
Average area burned each year	939 acres	556 acres

B. WEATHER PATTERNS

There are no nearby mountain ranges to influence climatic conditions, and temperatures characteristically range from very cold in winter to very warm in summer.

Annual rainfall averages about 13 inches a year, and the climate is classed as semi-arid, with less than 10 inches about one year in seven.

Record temperature extremes range from -65°F at Fort Keogh on January 13, 1988, to 111°F on July 31, 1901. Maximum temperatures of 90°F or more occur frequently in July and August, accompanied by afternoon relative humidities of 25-30%. From July 14 through August 1, 1936, there were 19 consecutive days with temperatures of 90°F or above. At the observation station in Miles City from July 13 through August 6, 1951, there were 25 consecutive days in that range. Weather data is provided in Table 5. (USDC-1969)

TABLE 5: WEATHER DATA, MILES CITY, MONTANA
THIRTY YEAR AVERAGES, 1931-1960 (USDA-1969)

Month	Average Temp. (F°)	Average Precip. (Index)	Relative Humidity at 5 p.m.	Wind Speed (mph)	Prevailing Wind Direction	Number of Days of 90° and Above
Jan.	16.5	0.44	68%	9.1	NW	0
Feb.	20.3	0.37	70	9.3	NW	0
March	30.9	0.65	54	10.6	NW	0
April	45.7	1.06	46	11.5	NW	0.5
May	57.4	1.73	43	10.8	SE	1
June	65.6	2.71	42	10.1	SE	4
July	75.3	1.34	31	9.4	SE	16
Aug.	72.6	1.24	27	9.4	SE	14
Sept.	61.0	0.96	39	9.6	NW	3
Oct.	49.0	0.87	43	9.5	SSE	0.5
Nov.	32.6	0.43	61	9.7	SSE	0
Dec.	23.2	0.37	68	9.6	SSE	0
YEAR	45.8	12.87	49	9.9	SE	39

III. CURRENT FIRE HAZARDS AND RISKS AND VALUES AT RISK

A. FIRE HAZARDS

A fire hazard is a fuel situation. Hazards, or fuels, are grouped according to kind, amount, condition, location in relationship to threat of ignition and suppression difficulty. The basic fuel categories are shown on Table 6, page 7, and Map #4--Back Cover Jacket.

Photo 2: Fire Hazard--Rangeland

1. Rangeland Fire Hazards

Rangeland fuels are predominately grass and sagebrush. These light fuels are very responsive to changes in moisture and temperature. Under dry conditions, this fuel type can present a fire hazard most of the year. The nature of these fuels offers the potential for large, fast moving fires such as the 3,000 acre Cottonwood Creek fire in 1974.

Photo 3: Fire Hazard--Mixed Barren Rangeland

2. Mixed Barren Rangeland Fire Hazards

These fuels are also predominately grass and sagebrush, with intermingled juniper and scrub pine. Grass cover is less continuous than in the rangeland category. Fire behavior is similar to that in the Rangeland type. Many of the lightning-caused fires in the county are in the mixed barren rangeland and in the forest fuel categories.

Photo 4: Fire Hazard--Coniferous Forest

3. Coniferous Forest Fire Hazards

Forest fuels consist of ponderosa pine intermingled with juniper above a ground cover of grass. These fuels respond somewhat slower to changes in moisture and temperature than do the very light fuels; consequently, the fire season is normally limited to about four months. The fire hazard depends on the seasonal condition, but these forested areas do present a major hazard under severe conditions. Many of the lightning-caused fires are in this fuel category.

Photo 5: Fire Hazard--River Bottom

4. River Bottom Fire Hazards

The river bottom fuels are mainly cottonwood trees with a brushy understory. These fuels are usually not readily ignitable, and fires that do occur are fairly slow moving.

Photo 6: Fire Hazard--Cropland

5. Cropland Fire Hazards

Certain dryland crops, such as wheat, present a high fire hazard on a limited seasonal basis. A fire ignited in a ripe wheat field is usually very fast moving, and difficult to control. Irrigated cropland, of course, is not a fire hazard.

TABLE 6: GENERAL FIRE HAZARD RATINGS OF CUSTER COUNTY

Also See Map #4--Back Cover Jacket

Hazard Category	Value at Risk	Risk of Ignition	Difficulty of Suppression	Length of Season
Rangeland	Med.-High	Mod.-High	Low	Med.-Long
Mixed Barren Rangeland	Low-Med.	Mod.-High	Low-Mod.	Med.-Long
Coniferous Forest	Low-Med.	Mod.-High	High	Medium
River Bottom	Low	Moderate	Moderate	Medium
Dryland Crops	High	Mod.-High	Mod.-High	Short

B. FIRE RISKS

A fire risk is an ignitor; something that starts a fire.

Fire records clearly show that man-caused fires are a much bigger problem, in terms of number of fires, than lightning-caused fires are in Custer County. See Table 4, page 3. Debris burning and railroads are the two most serious man-caused risks.

On the average, however, lightning-caused fires burn twice the area per fire as do man-caused fires. A lightning fire occurrence pattern is fairly well defined in the rough country south and east of the Yellowstone River.

C. VALUES AT RISK FROM FIRE

1. Structural Values at Risk

Individual groups of farm and ranch buildings, whose protection is a high priority, can be threatened by the large, fast moving wild fires characteristic to the county. The danger of fire to these structures is increased by the low population density and the longer response time involved in fighting rural fires in Custer County.

Photo 7: Value at Risk--Rural Structures

Photo 8: Value at Risk--Livestock and Grazing

2. Livestock and Grazing Values at Risk

Agriculture, particularly livestock production, is the backbone of the Custer County's economy. While livestock grazing tends to reduce the amount of fire fuel, the stock and associated forage needed represent a significant value at risk. While destruction of a pasture by fire is not a permanent loss, it can create a serious short term economic problem for the landowner. A stockman could be forced to lease another pasture, buy feed, or make an unplanned sale of livestock that would otherwise not be necessary. Loss of haystacks can be especially serious.

Photo 9: Value at Risk--Cropland

3. Cropland Values at Risk

Dry land crops are scattered throughout the rangeland in Custer County. The relatively high value of this resource, during the summer fire season, makes it high in protection priority. Probably the greatest threat would be in conjunction with a large, fast moving range fire, or during harvest operations when mechanized equipment is operating in grain fields.

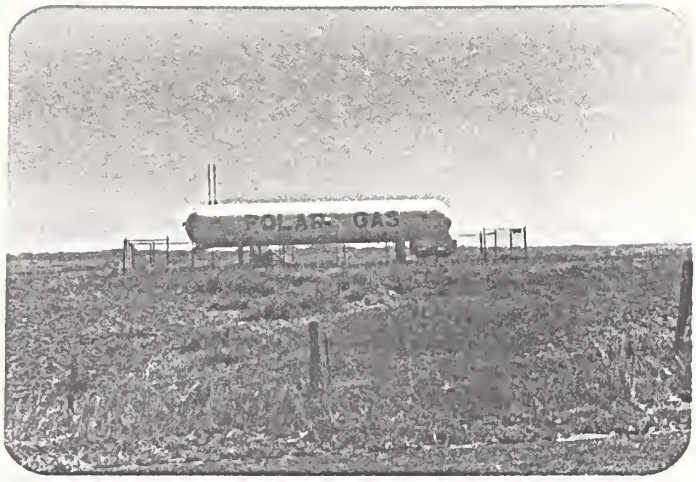


Photo 10: Value at Risk--Industrial

4. Industrial Values at Risk

Industry as such is very small scale in Custer County. There are, however, industrial type values at risk to consider. Electric power and telephone lines are concentrated in the most populated areas along the Yellowstone River corridor.

Continuing development of minerals, oil, and natural gas represents an increasing value at risk.

Railroad main line signal circuitry and associated equipment is also vulnerable to fire damage. Ironically, the biggest fire threat to this equipment is from fire caused by the railroad itself.

Photo 11: Value at Risk--Watershed

5. Watershed Values at Risk

Water is a relatively scarce commodity in Custer County, and the watershed resource deserves protection. Fire caused damage could be expected in areas that burn repeatedly, resulting in severe soil erosion.

Photo 12: Value at Risk--Forest Products

6. Forest Products Values at Risk

Forest harvest operations are presently very small scale and localized in Custer County. However, a strong lumber market and increased regulations on federal lands have prompted an increased interest in harvesting privately owned timber in eastern Montana. There are indications that this situation is developing in Custer County.

7. Recreational, Aesthetics, Wildlife Values at Risk

Outdoor recreation in Custer County is primarily geared to undeveloped, dispersed use activities such as hunting and fishing.

Campgrounds, highway rest stops, fishing access sites, and designated points of interest are examples of public attractions that represent values at risk.

There is also a significant recreational value in the private sector. Probably most rural residents make some sort of recreational use of their lands, and there is some income derived from dude ranching and big game hunting.

Obviously the scenic and wildlife resources are components of outdoor recreation attractions, and represent important values at risk.

A large, severe wildfire could have a long term adverse effect on the recreational, scenic, and wildlife resources.

IV. CURRENT FIREFIGHTING CAPABILITY OF CUSTER COUNTY

A. ORGANIZATION

1. Structural

(a) The Miles City Fire Department is responsible for structural fire protection within the city limits. They are also party to a mutual aid agreement with the Rural Fire Association.

(b) The Rural Fire Association is responsible for structural fire protection within a 15 mile radius around Miles City.

(c) Structural fire protection in the outlying rural areas is largely left to the individual property owner with some assistance from the county.

2. Wildland

(a) Privately Owned Lands (2,000,311 acres)

The Rural Fire Association provides fire protection to 320,050 acres of privately owned land within a 15 mile radius of Miles City. The Association is party to a mutual aid agreement with the Miles City Fire Department. The protection area represents about 16% of the private land area of Custer County.

There is an area of approximately 1,680,261 acres of privately owned land outside the Rural Fire Associations' protection area. Custer County has the responsibility for fire protection on these lands. This protection is presently being provided by the volunteer efforts of rural residents, with occasional assistance from the county on problem fires.

Custer County, through this document, is requesting to enter into a cooperative agreement with the State of Montana to better meet its fire protection responsibilities.

(b) State Owned Lands (141,007 acres)

The State delegates the fire protection on all but its forest lands to the State lessees. A state-county cooperative fire control agreement would aid the lessees of State land in providing the basic level of fire protection to the resources on these lands.

(c) Federally Owned Lands (344,689 acres)

The Bureau of Land Management provides fire protection to the 344,689 acres of land under its administration throughout the county.

TABLE 7: WILDLAND FIRE PROTECTION RESPONSIBILITY IN CUSTER COUNTY

Protection Agency	Acres of Protection		Percentage of County
Rural Fire Association	Private	320,050	
	State	44,268	15
Custer County	Private	1,680,261	
	State	96,739	71
Bureau of Land Management		344,689	14
TOTAL		2,486,007 Acres	100%

B. TRAINING

Although the Miles City Fire Department assists the Rural Fire Association with structure fire training and basic wildland fire training, the Volunteers involved in the outlying areas receive no formal wildland fire fighting training. As part of the cooperative fire control agreement, wildland fire training assistance would be available through the State Division of Forestry.

Structure fire training programs are available through the Montana Fire Academy.

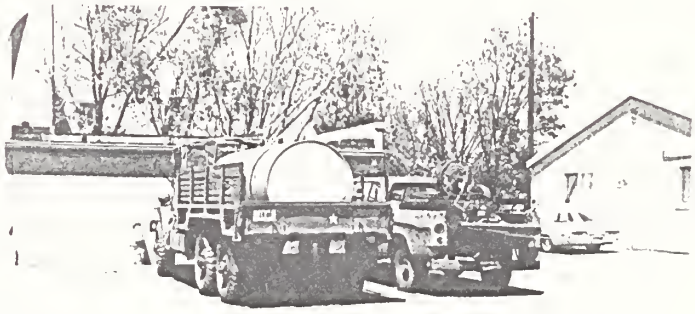


Photo 13: Example of Custer County Fire Equipment

C. FIRE PREVENTION

Fire Prevention measures are in effect in Custer County as follows:

1. Educational Measures

The Bureau of Land Management cooperates with the county in alerting the public to severe fire conditions. Local area schools participate in the Keep Montana Green poster contest.

2. Law Enforcement

State Law 28-603, R.C.M., authorizes the county governing body to issue burning permits. This authority is exercised by Custer County and the sheriff's office is in charge of permit administration.

D. DETECTION, REPORTING AND COMMUNICATIONS

The primary means of fire detection is direct observation by local residents. These people are typically very fire conscious and promptly report fires to the sheriff's office, or to the Bureau of Land Management in Miles City.

Aerial detection also plays an important part in the county detection system, and private aircraft pilots are cooperative about reporting fires. Fires, observed on the county protection by the Bureau of Land Management summer patrol flights, are reported to the sheriff's office, or to the Miles City Fire Department.

Communications within the outlying areas under county protection and within the Rural Fire Association's area of responsibility is by telephone or citizens band radio.

E. PRESUPPRESSION

1. Transportation Systems

Road systems are shown on Map #2, 3, 4. Most of the county is accessible by four wheel drive vehicle. There is a 6,311 foot long commercial airport at Miles City. Several ranchers have private airstrips.

2. Equipment

(a) Miles City Fire Department

The Miles City Fire Department has the following equipment available for use within Miles City and the Rural Fire Association areas only.

1 - 200 gallon pumper, 750 gpm
1 - 200 gallon pumper, 4 x 2
1 - 500 gallon pumper, 750 gpm
1 - 500 gallon pumper, 1000 gpm

(b) Rural Fire Association Equipment

1 - 800 gallon pumper, 1000 gpm
1 - 1800 gallon tanker, 6 x 6
1 - 1800 gallon tanker, 4 x 6
1 - 200 gallon pumper, 4 x 4
1 - 200 gallon pumper, 4 x 2

(c) Custer County Equipment Available for Firefighting:

1 - 1000 gallon tanker, 6 x 6, Located at Ismay
1 - 1000 gallon tanker, 6 x 6, Located at the County Shop
1 - 200 gallon tanker, 4 x 4, Located at Locate
2 - filler pumps
1 - D-4 dozer with blade
1 - D-5 dozer with blade
1 - D-6 dozer with blade
1 - TD-20 dozer with blade
5 - patrols
3 - M-37 Cargo trucks, 4 x 4, which would be outfitted as tankers

(d) Private

A variety of privately owned heavy equipment, farm machinery, and vehicles could be mustered locally if needed.

3. Manpower

(a) Miles City Fire Department
16 - paid firemen
10 - volunteers

(b) Rural Fire Association
22 - volunteers

(c) Custer County
Approximately 12 equipment operators

(d) Private
Farm and ranch crews are available locally if needed

F. SUPPRESSION

1. Dispatching and Initial Attack

Fire Reports are received by the appropriate protection agency in Miles City; either by the Rural Fire Association, by the sheriff's office, or by the BLM. The Miles City Fire Department also monitors Rural Fire Association fire reports.

Initial attack dispatches by the Rural Fire Association are based on information provided in the detection report, such as location of the fire, fuel in that area, topography features and the fire's behavior.

Apparently many fires in the outlying county protection area are not reported unless they become large enough to require support. Such requests are made to the sheriff's office.

2. Coordination and Support

Rural Fire Association suppression efforts can be coordinated and supported by the Miles City Fire Department. Additional support is available from the county.

County suppression efforts in the outlying areas are supported only by the county itself and whatever volunteer manpower and equipment that may be found.

3. Cooperative Agreements and Mutual Aid Assistance

(a) Rural Fire Association

The Rural Fire Association has a mutual aid agreement with the Miles City Fire Department for the Association's 15 mile radius protection area.

(b) Bureau of Land Management

Custer County has a cooperative agreement with the Bureau of Land Management that is limited to suppression of fires on or threatening lands under Bureau of Land Management jurisdiction. In effect, this agreement states that the BLM will provide Custer County with a slip-on fire fighting unit which the county will maintain.

4. Disaster Planning

Fire control and disaster planning are tightly linked in Custer County. Dale Laney, Director of Emergency and Disaster Services, is coordinating the procurement of Civil Defense equipment for use in this program. Laney's office is in the same building as the sheriff's office and this allows close liaison between the programs.

G. FUNDING

1. County Funds ($4,800)

Custer County has an earmarked annual fire control budget of $1,700 and spends about $1,600 a year on vehicle insurance and $1,500 on equipment procurement and maintenance.

2. Rural Fire Association ($10,000)

The Rural Fire Association operates on an annual budget of about $10,000 in voluntary contributions.

3. Miles City Fire Department ($40,650)

The Miles City Fire Department presently has an annual expenditure of approximately $3,800 for industrial accident insurance, and $36,850 for equipment procurement and maintenance due to its rural mutual aid agreement.

4. Volunteer Efforts

It is difficult to assess the economic value of the many hours of service provided by volunteers involved in fire control. The donated time in training, meeting attendance and fire control efforts alone is worth several thousand dollars annually.

V. PROTECTION NEEDS

A. ORGANIZATION AND PLANNING

The County working with the State should:

1. Enter into a cooperative fire control agreement with the State of Montana. This action will enable Custer County to supplement, and improve its fire protection of state and private natural resources in the county's area of responsibility.

2. Form a county rural fire council. This body would serve in an advisory capacity to assist in identifying and solving problems throughout the county.

3. Develop a state-county annual operating plan. This should serve to identify manpower and equipment needs and proposed locations, areas of responsibility, communications procedures and organizational structure.

4. Investigate the need for a county firewarden position. With the installation of a 911 emergency call system now underway, there may be room for improvement in fire reporting, and a need to separate this function from routine law enforcement activities.

B. TRAINING

The County working with the State should:

1. Provide basic wildland fire training to volunteers as outlined in the annual operating plan.

2. Provide equipment operations training to volunteers; especially to users of state-owned equipment.

3. Provide specific and advanced wildland fire training to the County Firewarden, members of the Rural Fire Association and members of the Miles City Fire Department.

4. Identify unique training needs, such as suppressing fires which are ignited by train derailments. Assist with filling those needs.

C. FIRE PREVENTION

The County working with the State should:

1. Coordinate specific prevention efforts as outlined in the annual operating plan. There is an obvious need to direct prevention efforts at debris burning and railroad caused fires.

2. Develop a public awareness of the fire danger through news media exposure.

3. Promote continued local participation in the Keep Montana Green poster contest.

4. Coordinate county fire closure requests, as needed.

D. DETECTION, REPORTING AND COMMUNICATIONS

The County working with the State should:

1. Identify specific detection and communications problems and list them in the annual operating plan and outline methods to solve these problems.

E. PRESUPPRESSION

1. Equipment

An analysis of the available information indicates that the State of Montana should provide to Custer County the following equipment:

(a) 8 - 5 man hand tool units

(b) 6 - initial attack tankers: These tankers should be four wheel drive trucks with 200 gallon tanks and complete with fire pumps and tool complements. These units should be stationed at Knowlton, Volborg, Ismay, Moon Creek as well as undesignated locations in the southwest corner of the county and northern end of the county.

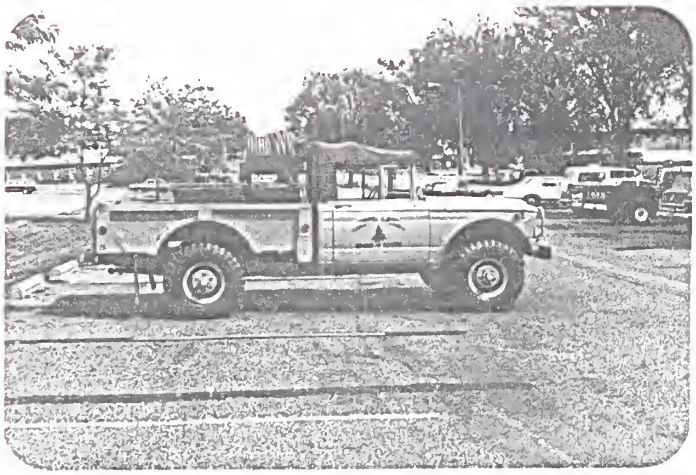


Photo 14: Initial Attack Tanker--State-Owned

2. Manpower

No increase in number of volunteer firefighters is anticipated. An increase in available tools, equipment, and training, however, is expected to produce an increase in fire control participation by local residents.

F. SUPPRESSION

1. Dispatching and Initial Attack

The improved communications provided by the 911 system should cut down on initial attack response times. Placing additional tools and equipment in outlying areas of the county and assigning areas of responsibility will improve county-wide dispatching and initial attack efficiency.

2. Cooperative Agreements

(a) State of Montana

A cooperative fire control agreement between Custer County and the State of Montana will enable the county to receive assistance in organization and planning, equipment procurement, wildfire control training, and fire prevention efforts. In addition, the county will be afforded state support, if needed, in a fire emergency situation. The State will benefit by receiving protection on the 141,007 acres of State land and the 2,000,311 acres of private land.

(b) Fallon and Prairie Counties

A mutual aid fire protection agreement should be entered into between Custer, Fallon, and Prairie Counties. This agreement would facilitate cooperation on boundary line fires, and would provide for the use of state-owned fire equipment across county lines. Fallon and Prairie Counties already participate in the state-county cooperative fire program.

(c) Miles City

The county should reach a mutual aid agreement with Miles City to allow joint use of fire protection equipment.

VI. PROPOSED FISCAL PLAN

The proposed fiscal plan for the state-county cooperative fire program is summarized in Tables 8, 9 and 10.

Detailed and itemized expenditures will be outlined in the annual operating plan. Custer County's expenditures are based on current operating levels and anticipated cost increases. They include volunteer efforts of local fire forces. State expenditures are based on the needs that this plan indicates as necessary for the State to cooperate in a fire control program.

TABLE 8: CUSTER COUNTY'S EXPENDITURES IN A COOPERATIVE FIRE CONTROL PROGRAM*

	F.Y. 1980	F.Y. 1981	Continuous
Fire Organization & Planning	$ 2,257	$ 1,528	$ 272
Wildland Fire Training	7,360	7,360	7,360
Wildland Fire Suppression	28,480	28,500	28,700
Wildland Fire Equipment	43,805	44,200	44,500
Fire Prevention	631	1,255	1,354
Fire Detection & Reporting	170	170	170
TOTAL	$82,703	$83,013	$82,366

TABLE 9: STATE OF MONTANA'S EXPENDITURES IN A COOPERATIVE FIRE CONTROL PROGRAM*

	F.Y. 1980	F.Y. 1981	Continuous
Salaries and Wages	$10,878	$11,313	$11,766
Contracted Services	360	660	660
Supplies & Materials	3,000	3,200	2,400
Communications & Transportation	50	50	50
Utilities	100	100	100
Travel	900	900	500
Repairs & Maintenance	1,800	2,100	600
Capital	18,300	10,300	2,860
TOTAL	$35,388	$28,623	$18,936

TABLE 10: COMBINED STATE AND COUNTY EXPENDITURES*

	F.Y. 1980	F.Y. 1981	Continuous
Custer County	$ 82,703	$ 83,013	$ 82,366
State of Montana	35,388	28,623	18,936
TOTAL	$118,091	$111,636	$101,302

*These figures would need to be adjusted annually due to increases caused by inflation, etc.

SOURCES OF INFORMATION

Bureau of Land Management (BLM). Fire Report Records. Personal Communication.

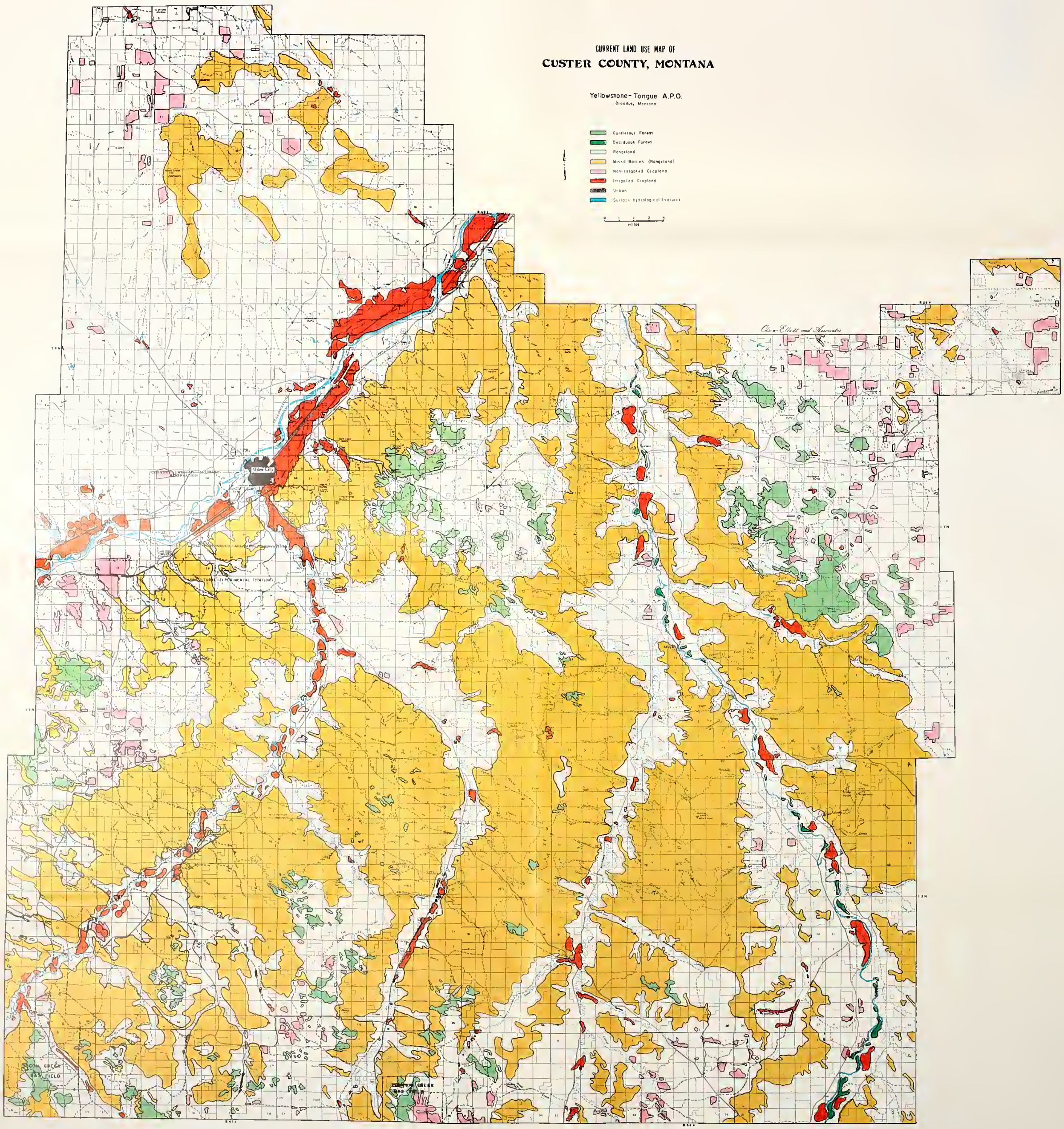
Miles City Fire Department (MCFD). Fire Report Records. Personal Communication.

Montana Department of Natural Resources and Conservation (DNRC), 1976. The Framework Report, Vol. 1. Water Resources Division, Helena, Montana.

U.S. Department of Agriculture (USDA). Personal Communication, 1978. Committee for Rural Development.

U.S. Department of Agriculture (USDA), 1978. Forestry Research--What's New in the West. Forest Service.

U.S. Department of Commerce (USDC), 1969. Local Climatological Data, Miles City, Montana.


CURRENT LAND USE MAP OF
CUSTER COUNTY, MONTANA
Yellowstone-Tongue A.P.O.
Broadus, Montana
Coniferous Forest
Deciduous Forest
Rangeland
Mixed Pattern (Rangeland)
Non-Irrigated Cropland
Irrigated Cropland
Urban
Surface hydrological features
miles
Olson-Elliott and Associates
Miles City
Sioux Creek Gas Field
Cedar Creek Gas Field

MAP SYMBOLS

Feature	Symbol	Feature	Symbol	Feature	Symbol	Feature	Symbol
Road All Weather	Divided	Principal Access	Divided	Buildings		Towns and Cities	
Road Seasonal Use		Solid waste dump	W	Buildings (Abandoned)		River or Large Stream	
Road "Jeep" Type "Primative"		Road Interchange		BLM Office		Stream	
Trail		Rest Area		School		Large Dam	
Railroad Double Track		Sand or gravel quarry		Church		Reservoir or Retention Dam	
Railroad Single Track		Scoria mine Bentonite mine		Radio Installation		Lake or Pond	
Glacier		Levee or Dike		Fire Lookout (Primary)		Intermittent Lake or Pond	
Road Bridge		Corral		Fire Lookout (Secondary)		Dry Lake or Pond	
Railroad Bridge		Recreation Site		Fire Tool Cache		Marsh	
Foot Bridge		Tanks-(label as to type)		Shelter		Spring	
Ferry		Gas wells		Cliff Dwelling		Improved Spring	
Road Ford		Oil wells		Ruins Small Large	Ruins Ruins	Well	
Trail Ford		US Mineral or Location Monument		Cemetery	CEM	Artesian Well	
Road Tunnel		Located Object (Labeled)		Sawmill		Windmill	
Railroad Tunnel		Triangulation Station	Dog	Airfield		Aqueduct Tunnel	
Coal mine		Bluffs or Cliffs				Ditch or Canal	
Prominent Peak		Prominent Ridge		Gaging Station		Aqueduct	

Data sources for the Current Land Use Map include the following:

Base Maps - Bureau of Land Management Surface Management Quads (1974, 1975);
Roseider Recreation Map; Montana Dept. of Highways (1972).

Data Sources - Skylab Photography; 1973 Landsat Imagery (April, 1976);
U.S.G.S. Aerial Photography (1972); B.L.M. Planning Unit Data (1975);
Montana Dept. of Natural Resources and Conservation Irrigation Maps (1970);
Soil Conservation District and Current Land Use Data (1969 to current);
Other Montana State Agencies.

MAP #4

Land Use of Custer County

The Yellowstone-Tongue Area Wide Planning Organization is the vehicle for a Water Quality Project that includes Carter, Custer, Fallon, Powder River, Rosebud, and Treasure Counties and the Northern Cheyenne Indian Reservation.

The project will be developing a program designed to maintain the quality of the rivers and the groundwater within the area.

Parts of this water quality management program have already been developed. Additional materials will be developed in the near future. As this material will contain guidelines for the control of sediment and salinity as well as domestic and industrial wastes, everyone should be interested in reviewing and commenting on it.

A series of public meetings will be held to discuss this material and to obtain input from interested citizens. The exact time and locations of these meetings will be announced in the newspaper. They are tentatively scheduled for:

Forsyth. . . . . July 18, 1977
Miles City . . . . . July 19, 1977
Ekalaka. . . . . July 20, 1977
Broadus. . . . . July 21, 1977

For additional information, write the Yellowstone-Tongue Water Quality Project in Broadus, Montana, 59317; or call collect: (406-28021).

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WATER QUALITY MANAGEMENT PROJECT

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Broadus, Montana 59317
406-436-2802 or 406-436-2816

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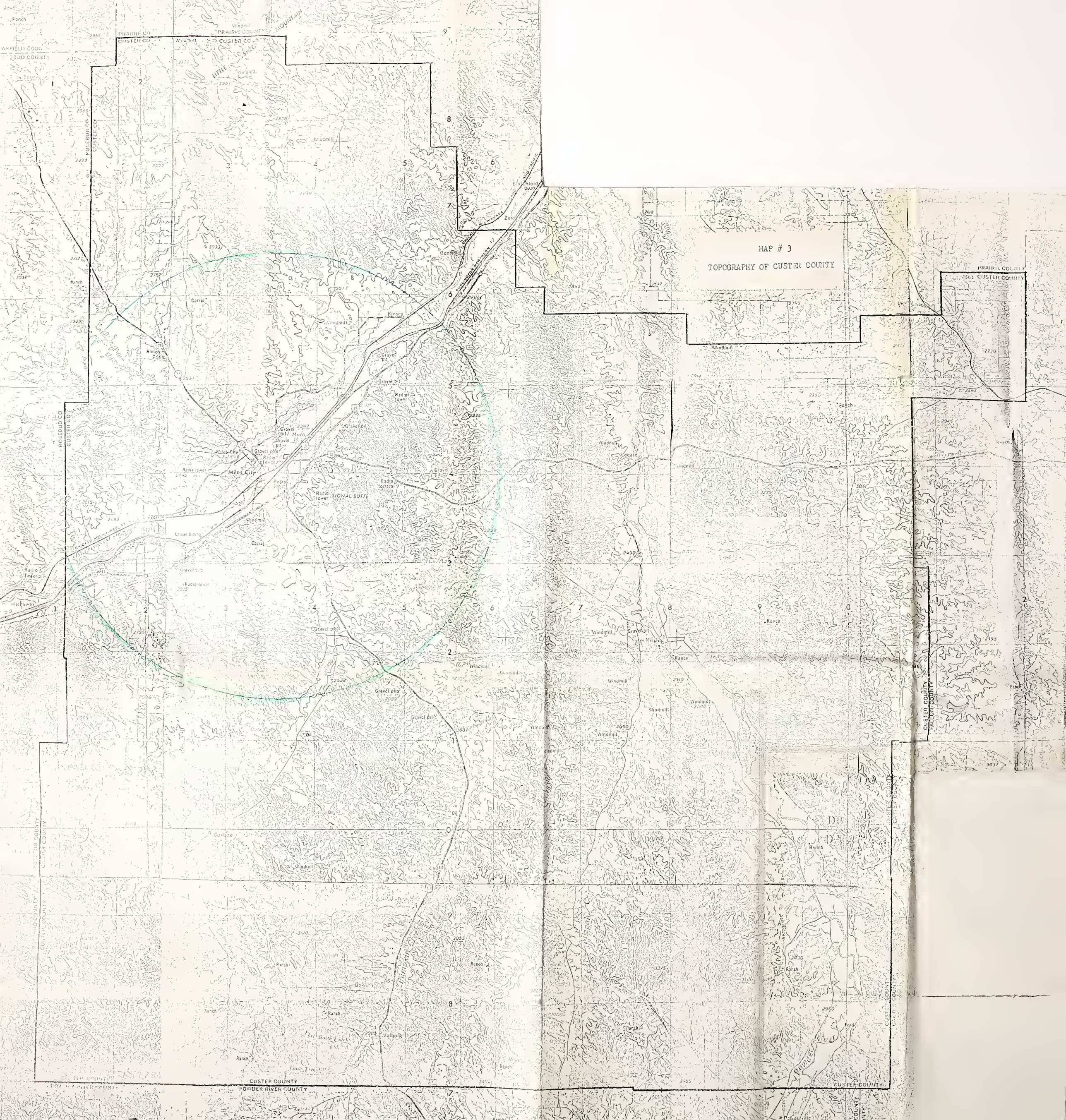
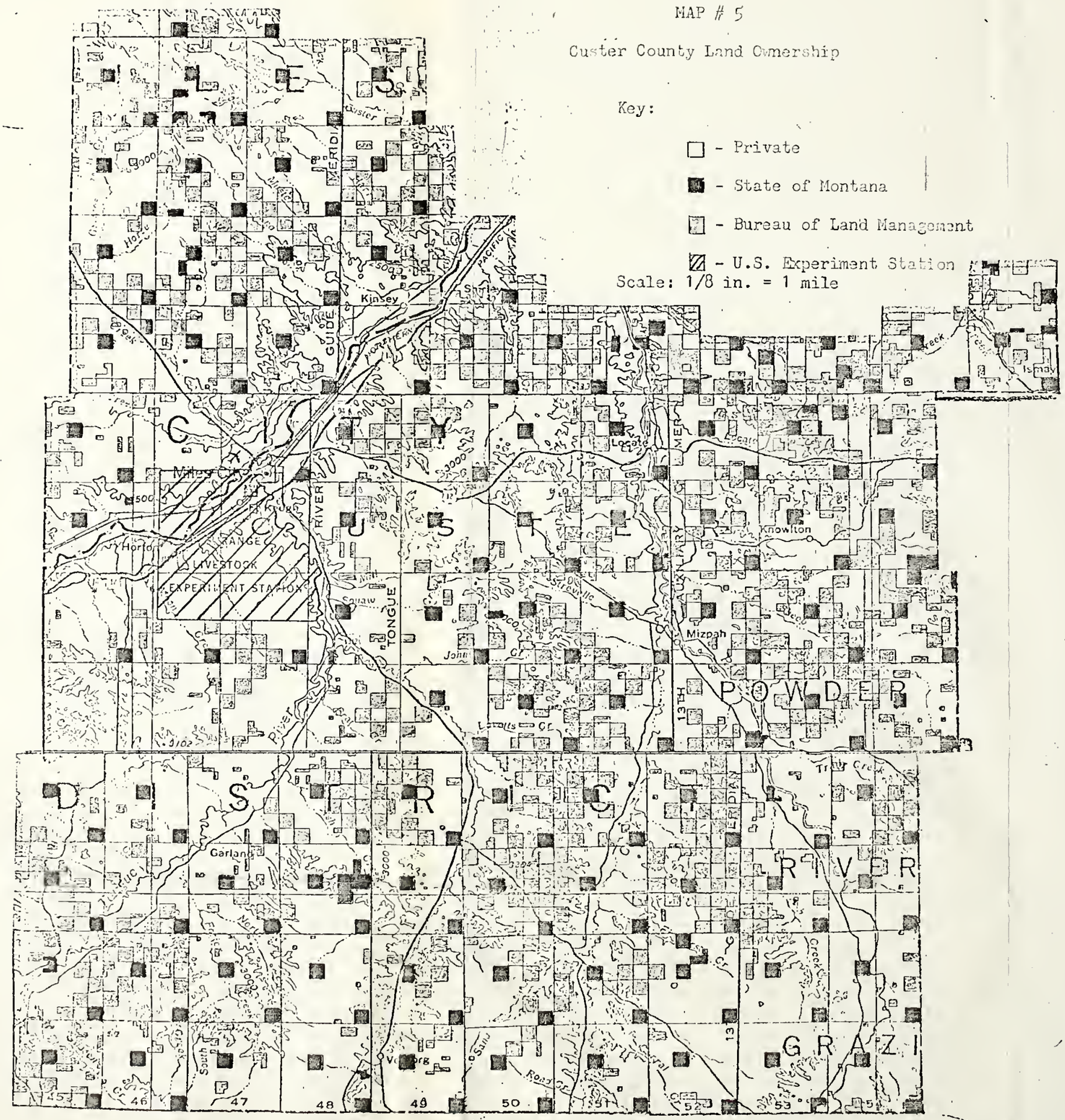

MAP # 3
TOPOGRAPHY OF CUSTER COUNTY
PRAIRIE COUNTY
CUSTER COUNTY
ROSEBUD CO
FALLON COUNTY
POWDER RIVER COUNTY
Miles City
SIGNAL BUTTE
Volborg
Kirsey
Windmill
Ranch
Corral
Radio tower
Gravel pit
Oil
Hardware
Flat Butte Creek
Long Tree Creek
Pumpkin Creek
Powder River

MAP # 5

Custer County Land Ownership

Key:

- Private
- State of Montana
- Bureau of Land Management
- U.S. Experiment Station

Scale: 1/8 in. = 1 mile